REMARKS

Claims 1, 2 and 5 are currently pending in this application. Claim 4 has been cancelled without prejudice or disclaimer.

Examiner Interview

Applicant's representative conducted a telephone interview with the Examiner on March 9, 2006, and thanks the Examiner for the courtesies extended at that time. During the interview, the differences between the claimed invention and the cited references were discussed, as well as the lack of motivation for combining the references as suggested by the Examiner.

Claim Rejections

Claims 1 and 2 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi *et al.* (U.S. Patent No. 6,265,827) in view of Eastlund *et al.* (U.S. Patent Publication No. 2002/0070668) and Matthews *et al.* (U.S. Patent No. 5,239,230).

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi and Eastlund, and further in view of Ishigami *et al.* (U.S. Patent No. 6,353,289).

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi, Eastlund and Ishigami, and further in view of Cox *et al.* (U.S. Patent No. 4,949,003).

Claim 4 has been cancelled without prejudice or disclaimer and the subject matter of claim 4 has been included in claim 1.

Claim 1 now recites, among other things, that a ratio of a tube current I (unit: A) supplied to the arc tube to the outer diameter d (unit: mm) of the electrodes sticking out inside the glass bulb (I/d) is 1.0 to 4.0 (A/mm). A non-limiting embodiment of the specification teaches that adjusting the I/d ratio to between 1.0 to 4.0 (A/mm) maintains the electrode temperature in a moderate range to avert flickering (*see* lines 12-18 on page 13 of the specification). The Examiner acknowledges that Takahashi fails to disclose such a feature and instead depends on Ishigami for this feature. However, one of ordinary skill in the art would not have been motivated to modify Takahashi with Ishigami as suggested by the Examiner.

Initially, Ishigami never teaches anything regarding an I/d ratio. Particularly, Ishigami never teaches evaluating this ratio at all, let alone any particular advantage to a particular I/d ratio. Thus, Ishigami provides absolutely no motivation for modifying Takahashi to meet this ratio. The Examiner's alleged motivation is to provide good arc and ample luminescence; however, there is no disclosure in Ishigami that an I/d ratio in the claimed range would provide this benefit. The only reason that the Examiner even evaluates this ratio in Ishigami is the present application, and the Examiner's assertions are clearly based on improper hindsight reasoning.

Furthermore, the Examiner's reliance on Fig. 19 (based on the Examiner's citation of column 41, lines 55-60 and column 39, lines 5-25) of Ishigami as teaching the claimed I/d ratio is misplaced at least because Ishigami does not teach the claimed feature and because the device of Ishigami's Fig. 19 is substantially different than Takahashi such that the particular features of Ishigami relied upon by the Examiner provide no insight for modifying Takahashi. For example,

Ishigami's Fig. 19 teaches three elements in the tube 41; a cathode 41a (diameter 1 mm), an auxiliary electrode 41b (diameter 0.3 mm) and an anode 41c (diameter unknown). The current relied upon by the Examiner is 2.6 A (*see* column 41, lines 55-60). Also, Ishigami's Fig. 19 teaches a light emitting tube 41 with an inner diameter of 18 mm.

First, Ishigami does not even teach opposing electrodes with an I/d ratio as set forth in claim 1. Only Ishigami's cathode 41a (diameter 1 mm) possibly meets the claimed ratio. There is no opposing electrode that would also meet the claimed ratio (namely, no I/d ratio is known for opposing anode 41c; also, auxiliary electrode 41b does not meet the claimed ratio). Therefore, since only cathode 41a possibly meets the claimed ratio, it is unclear how the Examiner believes that Ishigami teaches the claimed I/d of opposing electrodes sticking out inside the glass bulb.

Also, as stated above, Ishigami's device is substantially different than Takahashi such that a particular I/d ratio of Ishigami is irrelevant to Takahashi. For example, Takahashi teaches two electrodes 204, which appear to be essentially the same size (*see* Fig. 1; electrodes 204 are numbered the same implying the same structure). In contrast, Ishigami teaches three elements 41a-41c. There is nothing to suggest that a particular current or electrode diameter for Ishigami's device would be relevant in Takahashi, with its two electrodes. Furthermore, Ishigami's light emitting tube 41 has an inner diameter of 18 mm, substantially outside of the claimed range, which the Examiner asserts is taught by Takahashi. (Applicant notes that it is also unclear that Takahashi teaches the claimed glass bulb inner diameter.) Again, with such a

substantially different construction, Ishigami's current and cathode 41a diameter simply provide no insight into what would be beneficial in Takahashi. That is, even if Ishigami did teach a particular I/d ratio, there is no indication that the same ratio would be beneficial in a device with two electrodes as with a device with a cathode, anode and auxiliary electrode, as in Ishigami. Similarly, there is no indication that a ratio that would be proper in Ishigami with its 18 mm diameter tube would be useful in a device with a much smaller diameter glass bulb.

In view of the above, Applicant submits that claim 1 is allowable over the combined teachings and suggestions of Takahashi, Eastlund, Matthews, Ishigami and Cox at least because, either alone or in combination, they fail to teach electrodes and an I/d ratio as claimed.

Applicant also submits that the Examiner's combination of references is also deficient at least because the Examiner fails to identify proper motivation for modifying Takahashi to meet the claimed D2/D1 ratio.

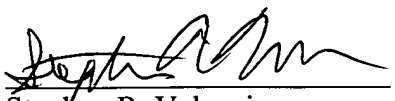
Claims 2 and 5 depend from claim 1 and are, therefore, allowable at least because of their dependency.

Conclusion

In view of the preceding amendments and remarks, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephonic interview, he is kindly requested to contact the undersigned attorney at the local telephone number listed below.

The USPTO is directed and authorized to charge all required fees (except the Issue/Publication Fees) to our Deposit Account No. 19-4880. Please also credit any over-payments to said Deposit Account.

Respectfully submitted,



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